TEXAS A&M UNIVERSITY SAN ANTONIO

MATH01332.001 Contemporary Mathematics

Fall 2024

Instructor: Ali Manesh **E-mail:** amane02@tamusa.edu

Class meeting: MWF 9:00-9:50

Help sessions (Office hours): By appointment

Course Description: This course supports students in developing skills, strategies, and reasoning needed to succeed in MATH 1332, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This support course is not a college-level course and should be graded Pass/Fail.

MATH1332 Course Overview: Intended for Non-STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.

Required Course Materials

Notebook for class handouts, notes, etc.

Calculator

GRADING POLICY FOR MATH0332.01L

MATH 0332 is a support course for MATH 1332 and the earned grade for MATH 0332 (pass or fail) will be based on the student's overall grade in MATH 1332 (see below). Students earning a grade of D or better in MATH 1332 will receive a grade of PASS in MATH 0332. Otherwise, the grade will be FAIL.

Grade Scale for MATH 0332 support course: 60 – 100% = Pass; Below 60% = Fail

GRADING POLICY for MATH 1332

Graded Course Elements	Percentage
Homework	25%
Classwork and Participation	15%
Exams (3)	60%

Grade Scale for MATH 1332: 90 – 100% = A; 80 – 89% = B; 70 – 79% = C; 60 – 69% = D Below 60% = F

Student Learner Objectives for MATH1332

Students will explore ways in which mathematics is used in, and is part of, our world and everyday life. We will explore some topics from different areas of mathematics to experience a breath of material that can help us gain a sense of mathematical perspectives and relate to our specific areas of interest. The goal is for students to learn to see not only how useful mathematics is and how it helps us look through different lens, but also how beautiful mathematics can be.

In particular, students will be able to

1. Identify and apply fundamental problem-solving processes as related to their disciplines of interest.

2. Interpret and apply set terminology, set operations and Venn diagrams to represent information and analyze results.

3. Identify simple and compound statements, express statements in symbolic form, and construct truth tables to draw conclusions and formulate arguments.

4. Apply proportions and percentages to solve real-world applications.

5. Graph and interpret graphs of various functions to include linear, quadratic, exponential and logarithmic functions and associated growth relationships.

6. Apply financial analysis including compound interest, annuities, and amortization.

7. Compute and interpret theoretical and empirical probabilities to simple, independent, and dependent events that include basic counting using permutations, and combinations.

8. Describe and analyze normally distributed data to include computing and interpreting measures of central tendency, dispersion and linear relations.

9. Identify and apply basic geometric concepts in various natural states and everyday applications.

Upon successful completion of this course, students will:

1. Apply the language and notation of sets.
2. Determine the validity of an argument or statement and provide mathematical evidence.
3. Solve problems in mathematics of finance.
4. Demonstrate fundamental probability/counting techniques and apply those techniques to solve problems.
5. Interpret and analyze various representations of data.
6. Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy, and civic engagement.

MATH 0332 reinforces the learner objectives of MATH 1332 with additional in-class problem solving, instruction, and additional problem sets.